N. DOUGLAS.

COLUMN FORM, SHORE, AND SCAFFOLD CLAMP.

APPLICATION FILED APR. 14, 1919.

1,360,507. Patented Nov. 30, 1920.

2 SHEETS—SHEET 1.

FIG. 1.

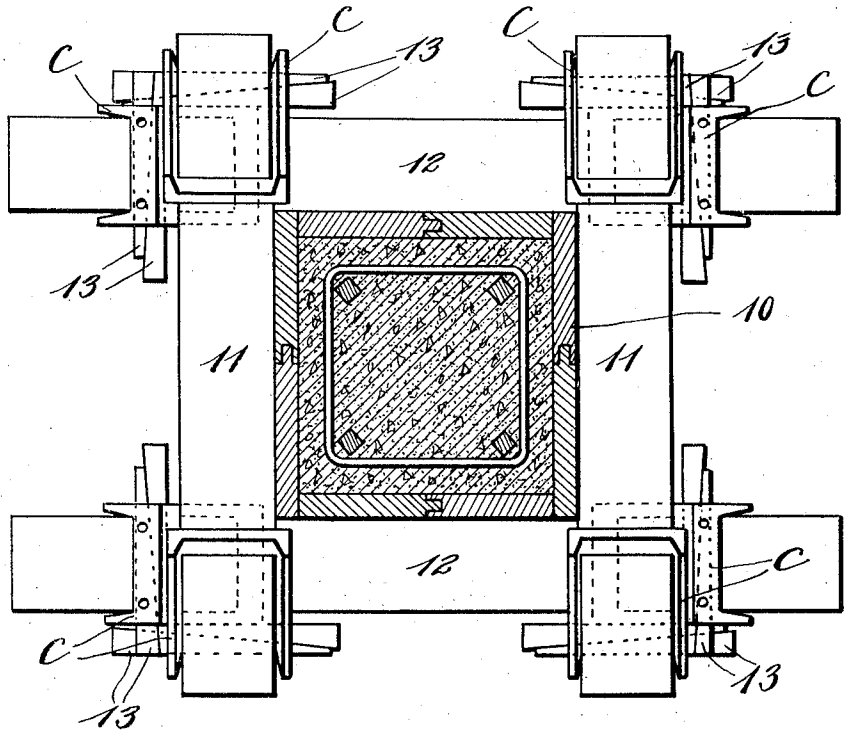
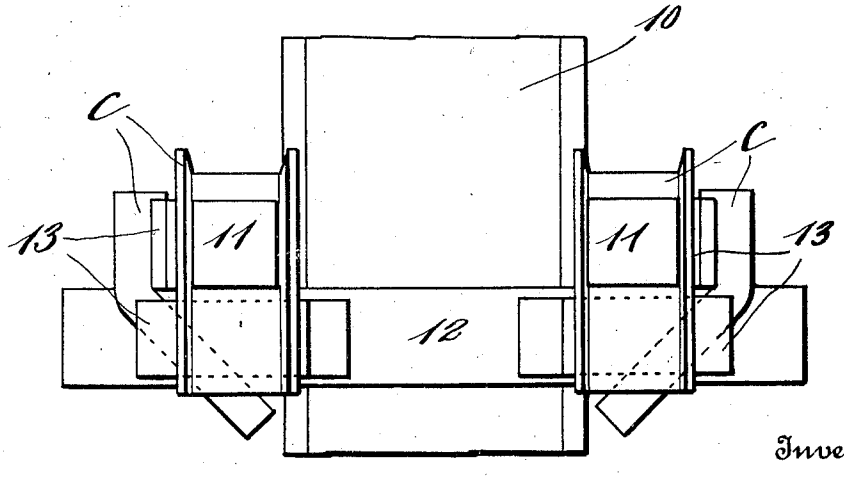


FIG. 2.



Inventor.

N. Douglas

By A. B. Williamson & Co

Attorneys

N. DOUGLAS.

COLUMN FORM, SHORE, AND SCAFFOLD CLAMP.

APPLICATION FILED APR. 14, 1919.

1,360,507. Patented Nov. 30, 1920.

2 SHEETS—SHEET 2.

FIG. 3.

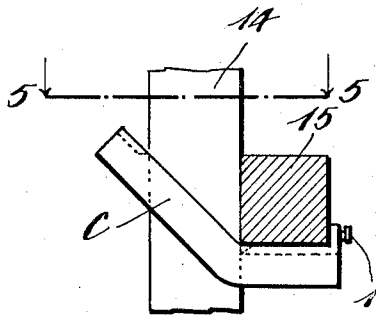


FIG. 4.

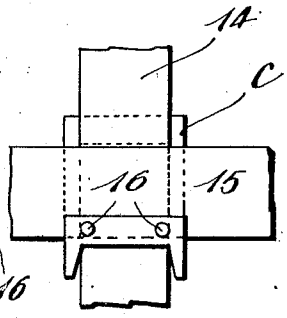


FIG. 5.

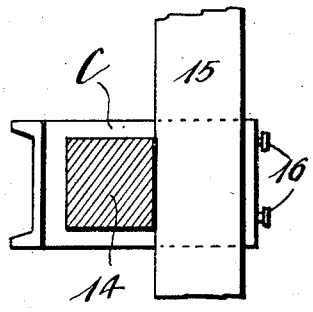


FIG. 6.

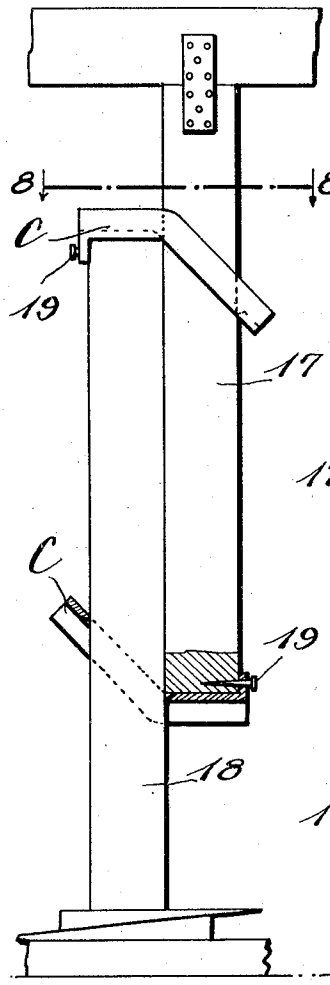


FIG. 7.

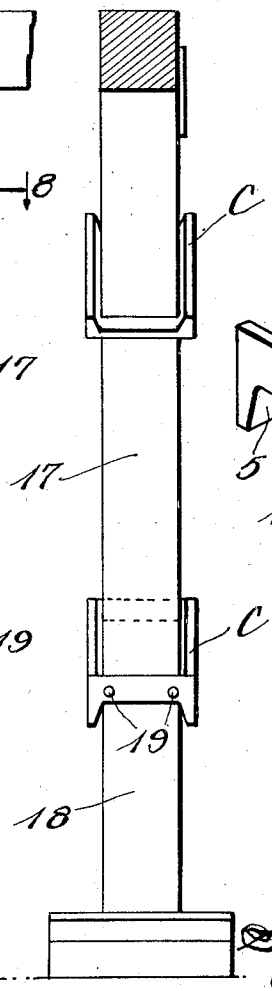


FIG. 8.

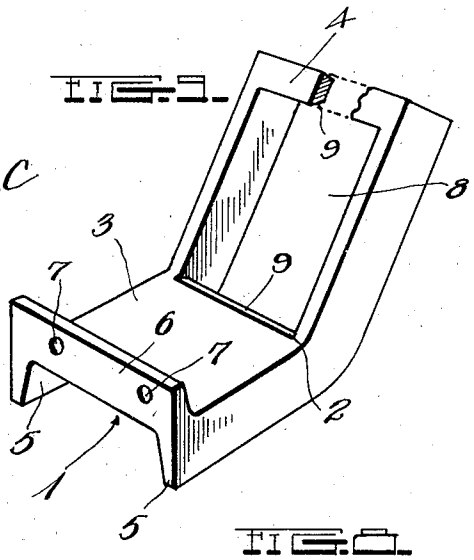
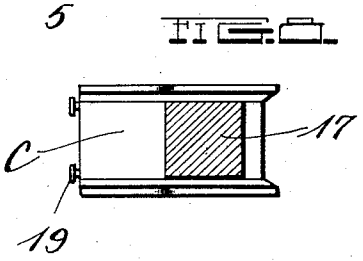


FIG. 9.



Inventor

N. Douglas

By H. B. Wilson & Co.

Attorneys

UNITED STATES PATENT OFFICE.

NORMAN DOUGLAS, OF SYRACUSE, NEW YORK.

COLUMN-FORM, SHORE, AND SCAFFOLD CLAMP.

1,360,507. Specification of Letters Patent. Patented Nov. 30, 1920.

Application filed April 14, 1919. Serial No. 289,910.

To all whom it may concern:

Be it known that I, NORMAN DOUGLAS, citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Column-Form, Shore, and Scaffold Clamps; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an extremely simple and inexpensive, easily applied, and reliable clamp for use principally in connection with concrete structures, for securing 4x4″ battens around column forms, for constructing scaffolds, and for connecting the upper and lower sections of shores, the device being of such construction as to permit it to be easily stamped from a single length of channel iron or steel, or other suitable metal.

With the foregoing in view, the invention resides in the novel clamp hereinafter fully described and claimed, reference being made to the accompanying drawings.

Figure 1 is a horizontal section of a column form showing eight of the clamps in use for forming a collar of 4x4″ battens around said form.

Fig. 2 is a side elevation of the form, collar and clamps illustrated in Fig. 1.

Figs. 3 and 4 are respectively a vertical section and a side elevation showing one manner in which the clamp may be used in the construction of scaffolds.

Fig. 5 is a horizontal section on the plane of the line 5—5 of Fig. 3.

Figs. 6 and 7 are a side elevation and vertical section respectively, illustrating the manner of employing the clamp in constructing shores.

Fig. 8 is a horizontal section on the plane of line 8—8 of Fig. 6.

Fig. 9 is a perspective view of one of the clamps.

In the manufacture of the clamp, (see Fig. 9) I preferably use a single length 1 of channel iron or steel, said length being bent between its ends on a transverse line 2, to provide relatively short and long arms 3 and 4 disposed at an obtuse angle to each other. The flanges 5 of the length of angle iron or steel, serve to reinforce the arms 3 and 4 and the body portion of the metal is bent laterally away from the flanges 5 to provide a hook flange 6 at the outer end of the arm 3, this flange being provided with holes 7 to receive nails, screws or the like. The metal between the flanges 5 of the arm 4 is cut away to provide a rectangular opening 8 extending from the line 2 to approximately the outer end of said arm 4, and both end walls of said opening are beveled to provide sharp edges 9 adapted to bite into a 4x4 or other timber inserted through the opening 8. The device is intended principally for use in connection with 4x4s, but could of course be constructed in other sizes if desired, but this is not usually necessary since practically all of the beams and the like used in the construction of scaffolds, column collars, shores, etc., are 4x4″ in transverse section.

Figs. 1 to 8 of the drawings illustrate several of the ways in which the device may be used. The clamps are designated by the character C in these figures to prevent obscuring the disclosure by a multiplicity of reference characters. Figs. 1 and 2 show a column form 10 and a collar around said form formed of battens 11 and 12, the battens 11 resting on the battens 12 with their ends crossing the same at the corners of the form. Eight of the clamps are necessary for securing the battens 11 and 12 together, two clamps being disposed on each bar 12 and two on each bar 11 as illustrated clearly in Figs. 1 and 2, and wedges 13 are driven between the short arms of the clamps and the battens to clamp the latter tightly against the column form 10. Slippage of the long arms of the clamps on the several battens is prevented by the biting edges 9 above referred to.

In the constructing of scaffolds (see Figs. 3, 4 and 5) the long arm of the clamp may be mounted on a vertical post 14 and the short arm thereof will then support a horizontal beam 15, and if desired nails or the like 16 may be driven through the openings 7 to hold said beam in place, but slippage of the clamps on the post 14 is prevented by the biting edges 9.

Figs. 6, 7 and 8 disclose the manner of using the clamp in the construction of shores. The upper and lower vertical sections 17 and 18 respectively, are slidable one upon the other, the lower end of the section 17 rests on a clamp C mounted on the section 18 and said section 17 passes through

the long arm of another clamp whose short arm rests on the upper end of said section 18. The edges 9 prevent slippage of the clamps with respect to the sections 17 and 18 and prevent any possibility of lateral tilting of said sections. Nails 19 are preferably driven through the openings 7 as shown.

In the foregoing, I have described three uses of the invention but it will of course be understood that it may be employed wherever applicable and may be used in any of the numerous ways in which it will perform the intended functions. Furthermore, although I have illustrated and described the device as formed of a single length of channel bar, it will be obvious that it might be otherwise constructed if desired. However, since probably the best results are obtainable from the exact construction disclosed, it is preferably followed.

I claim:

A clamp of the class described comprising a single length of channel bar having its two end portions disposed at an obtuse angle to each other to form beam engaging arms, the side flanges of said bar serving to reinforce said arms, one of said arms having a rectangular opening extending from a point adjacent its outer end to approximately the line of juncture of the two arms, the inner and outer end walls of said opening having biting edges, the body portion of said bar at the outer end of the other arm being bent laterally at substantially right angles to the other and provided with an opening to receive a nail or other fastener.

In testimony whereof I have hereunto set my hand.

NORMAN DOUGLAS.